



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/587,558	07/31/2006	Stephan Buhren	2209.953(WS2254US-PCT)	8919
21878	7590	03/24/2009	EXAMINER	
K&I, Gates LLP 214 N. TRYON STREET HEARST TOWER, 47TH FLOOR CHARLOTTE, NC 28202			SCHEUERMANN, DAVID W	
ART UNIT	PAPER NUMBER			
		2834		
MAIL DATE	DELIVERY MODE			
03/24/2009	PAPER			

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/587,558	Applicant(s) BUHREN, STEPHAN
	Examiner DAVID W. SCHEUERMANN	Art Unit 2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 31 July 2006.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-5 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-5 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 31 July 2006 is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO/02506)
Paper No(s)/Mail Date 7/31/2006

4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____

5) Notice of Informal Patent Application

6) Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Coenen, US 6124658 in view of Naruse et al., JP 411146609A. Coenen, US 6124658 shows the invention as claimed except for the bracketed feature:

Rotor shaft (4 see figure 5) of a spinning rotor with an annular magnetic bearing component (bearing magnet 43), which is secured with respect to the centrifugal force effective during the spinning process by a ring liner (contiguous to the outside diameter of bearing 42), for radially and axially supporting the rotor shaft (inherent) , wherein the rotatable magnetic bearing component interacts with a stationarily arranged magnetic bearing component, characterized in that the magnetic bearing component connected to the rotor shaft (4) of the spinning rotor (3) is configured as a [slotted permanent magnet ring (32, 42), in order to ensure the deformability required to draw on a ring liner (6, 7).]

Coenen, US 6124658 does not expressly disclose, the bracketed features.

Naruse et al., JP 411146609A discloses putting a slot or groove on an annular permanent magnet to suppress cracks, note abstract. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to put a groove or slot in the permanent magnet of the device of Coenen, US 6124658 and hold the magnet in place by shrink fitting the annular retaining member or ring liner. One of ordinary skill in the art would have been motivated to do this to suppress cracks in the magnet while making the assembly easier and more secure.

Re claim 2, it would be obvious to make the slotted magnet ring inside diameter slightly larger than the outside diameter of the mounting lugs 2 as shown in figures 1 and 2 of Naruse et al., JP 411146609A. Note abstract as to the shrink features of the ring liner.

Re claim 3, note the permanent magnet ring of the combination of Coenen, US 6124658 and Naruse et al., JP 411146609A is complete closed before and after drawing on the ring liner.

Re claim 4, note that Coenen, US 6124658 shows a lug supporting the permanent ring to shaft 4.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Coenen, US 6124658 and Naruse et al., JP 411146609A in view of Imaizumi et al., JP 09096313A. The combination of Coenen, US 6124658 and Naruse

et al., JP 411146609A discloses the invention substantially as claimed as set forth in the rejection of claim 1, *supra*. The combination of Coenen, US 6124658 and Naruse et al., JP 411146609A does not expressly disclose, "...characterized in that the ring liner (6, 7) is manufactured from a material guaranteeing high tensile strength, preferably a carbon fiber-reinforced plastics material (CFRP)". Imaizumi et al., JP 09096313A discloses use of carbon fiber-reinforced plastic to press-fit support a magnet to a shaft for the inherent purpose of forming a strong and lightweight support. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use a ring liner formed of carbon fiber-reinforced plastics material (CFRP) in the device of the combination of Coenen, US 6124658 and Naruse et al., JP 411146609A. One of ordinary skill in the art would have been motivated to do this to for a strong and lightweight support.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David W. Scheuermann whose telephone number is (571) 272-2035. The examiner can normally be reached on Monday through Friday from 8:00 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Quyen Leung can be reached at (571) 272-8188. The fax phone numbers for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Quyen Leung/
Supervisory Patent Examiner, Art Unit 2834

dws
March 24, 2009